

STUDENT SIGNATURE SHEET

(Required in Each Portfolio)

Please read the Note to Students and Teachers below before signing the following statements.

Required Verification Signature

The pieces in this portfolio are my own original work. I am the author of all the pieces in my portfolio. I may have talked about my work (conferenced) with my teacher, family, and friends, but I have made the changes and corrections myself. I did my own writing, typing, and/or word processing (unless otherwise noted by teacher in box labeled "IEP/504 Plan Adaptations").

Student Signature C am

IEP/504 Plan Adaptations (requires teacher signature):

Teacher Signature _____

Optional Permission

I agree to allow my portfolio to be photocopied for use by others outside my school as an example of student work. I understand that my name, the names of my school and town, and any other identifying information I may have used in my writing will be removed before my portfolio is copied.

Student Signature (optional) C TR

Note to Students and Teachers

Required Verification Signature- It is required that the work contained in each portfolio is the original work of the student. Every portfolio must include the statement, signed by the student, that the work in the portfolio is his/her original work. This sheet must be placed in the portfolio on the page following the Table of Contents and before the first entry. **If the verification statement is not signed, the portfolio will receive a performance rating of Incomplete.**

Optional Permission- The use of actual student portfolios is critical in teacher training and is essential for quality control checks during statewide re-scoring activities. Students are requested, but not required, to give permission for this purpose and should sign the second above if they agree.

Please note that portfolios are included in any statewide re-scoring activities even if neither statement is signed.

2007 Practice # 2 Gr.12

2006 PORTFOLIO SCORING STUDY*

KENTUCKY WRITING PORTFOLIO

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Grade 12

Student Signature Sheet Included and Signed

☒ Y ☐ N (Circle One)

Fill In Number Selected	Category/Descriptor	Content area At least <u>one</u> piece must come from a content area other than English/language arts	Page
1	Reflective Writing		
	Title: Letter to the Reviewer	English/language arts	1
1	Personal Expressive OR Literary Writing (Include 1) Personal Narrative, Memoir, Personal Essay Story, Poem, Script, Play		
	Title: Youth Social <u>What</u> Training?	English	4
1	Transactive Writing Various Real-World Forms		
	Title: Ionic, Covalent, or Metallic? : Differentiating Between Chemical Bonds	Chemistry	12
1	Transactive Writing with an analytical or technical focus Various Real-World Forms		
	Title: TO CRON or not to CRON : Calorie Restriction Society	Anatomy + Physiology	16
4	Total (must equal 4)		

Dear Reviewer:

I couldn't tell you where I'll be or who I'll be with this Saturday night. I could be out at the movies, I could be bowling, or I could simply be spending time in my silky pajamas at home. Although my plans are quite indefinite, there is one thing that isn't. No matter where I am or who I'm with, I'll be glued to the television sharply at 11:30. Why is this so?

"Live from New York, it's Saturday Night!"

Ever since I can remember, I've been an avid fan of *Saturday Night Live*. From watching reruns of older shows starring John Belushi, to watching them live with Chris Parnell, "SNL night" has become somewhat of a ritual for me. Although most people watch the show simply for entertainment, I've become somewhat entranced with the whole process. Each cast member, writer, and producer for the show puts in tremendous amounts of time to in order make each sketch as terrific, memorable, and quote-worthy as possible.

But even great things can have terrible moments, and sometimes things don't always work out as you had expected. Not every SNL sketch has been quote-worthy, and not every joke created has been "milk-out-of-your-nose" hysterical. And regardless of who you are or what you've created, your work won't always be a masterpiece. Upon looking through old pieces written throughout my high school career, this concept became all too clear to me. Sure, several of my pieces were nicely written, but there were also horrendous papers constructed of jumbled words on paper. Needless to say, my work was cut out for me, but I was willing to welcome that work – I wanted

the best show that I could deliver to you, my reviewer and audience.

Despite positive thinking when receiving hard work in life, you will always have certain strengths and weaknesses. Maybe former SNL cast member Jimmy Fallon can't always keep a straight face when he's performing, but he plays a great Tom Cruise. I knew that transactive writing was my weakness. I wrote "Perceptions" within a matter of days, knowing exactly what I intended to deliver to the audience – a sensation of sympathy and understanding mixed in with a dash of irony. However, "Ionic, Covalent, or Metallic?: Differentiating Between Chemical Bonds" was an entirely different story. It was one of those sketches that I wasn't sure would make it on air, but after tedious amounts of work, it made it. While reading this piece, I hope that you walk away with more than a newfound appreciation of conductivity. This work exemplifies the art of knowledge through kinesthetic learning and trial-and-error.

When deciding which pieces to use for my portfolio, it was clear that "Youth Social *What Training?*" would undoubtedly make it straight to the show. I gathered all of my previous experiences, both from the trip and as a writer, and performed my best. My personal characteristics are spilled throughout this piece - a little comedic, a tad sarcastic, with a no tolerance policy for superficiality. I hope that you will laugh at this piece as much as I laughed at former SNL cast member Chris Farley impersonating Rush Limbaugh.

When doing impersonations or other various sketches, there is always a possibility that something can go wrong. However, this adds a certain element to the show. One of the best joys about watching SNL is knowing that what you are viewing is uncut and happening right then and

there. When you are live, *you are live*. If things go wrong, you have to work with what you have. You must make things better than they would have been if you hadn't made a mistake. When rereading "To CRON or not to CRON: Calorie Restriction Society", I had turned in the paper thinking that I had said my lines just right. Upon rereading this paper, I quickly realized that I had goofed. I improved grammatical structure, collected more information on cronies, and took out unnecessary sentences. After these changes, I knew that I had saved, and made, the show. Combining voice and opinion with research and data allowed the paper to reach it's highest potential.

Current cast member and head writer Tina Fey voiced her parent's opinion when she stated, "My parents have been very brave about my being here [New York], and I remember after the 11th [of September, 2001] thinking for sure they were going to say, 'Come home, come home.' Instead, my father gave me a speech about how important it was for me to be brave and stay in New York and keep working. That inspired me quite a bit." This portfolio presents how I've progressed as a writer thus far, and I will continue to keep working on my writing and remain inspired, much like Mrs. Fey. And after tedious amounts of rehearsing and constructive criticism from those behind the scenes, here I am live.

From Studio 8-H,

The SNL Fanatic

Youth Social *What* Training?

In West Philadelphia, born and raised, on the playground was where I spent most of my days. Alright, so maybe I wasn't born or raised in West Philadelphia (and maybe I have an obsession with the Fresh Prince of Bel-Air), but I was there on the cold night of Thursday, November 10th, 2005. Along with my friend Samm, we stood on a crowded sidewalk, waiting for our ride to arrive. Neither of us spoke, but we both knew how the other was feeling – tired, and a little ticked off. What was supposed to be a “simple” 16-hour bus ride turned into a 23-hour bus ride. After failing to get a spot on the first bus due to over-booking, we spent a couple of extra hours waiting for another bus. And another couple of hours at another bus stop. And another couple of hours at yet another bus stop. The combination of waiting countless hours and sleep deprivation put us both on edge; we just wanted to reach our final destination.

I had been waiting for this trip to come for almost a full year. Earlier in January during church service, Samm had suggested that I attend with her a yearly gathering known as YSJT, or Youth Social Justice Training. During the five-day training, several religious youth from across the United States and Canada come to participate in workshops that focus on anti-racism and anti-oppression education. These workshops are designed to help people learn more about different areas of social justice, how they have affected different cultural groups, and how to ensure that social justice is achieved. The concepts seemed extremely interesting to me, and I was looking forward to meeting other youth who had similar views to my own.

Most of the religious youth that attend each year are Unitarian Universalists, which I am, or rather, was. Unitarianism is a liberal religion, which focuses on each individual finding his or her own path and beliefs in life. It keeps an open mind to *all* religious questions, as well as *all* people who have struggled in all areas of life. Regardless of race, beliefs, or sexual orientation, Unitarians are open to *all* ways of life. And *all* of this information is true – if you look at the text on the official website. However, after spending a week at YSJT, I begged to differ.

Our ride finally arrives on that crowded sidewalk in West Philadelphia. After we have piled our luggage in the back, two young women greet us with a warm hello as we take our seats. They were older youth, about 20-22, who were helping put together the year's YSJT. Although I did not talk much (spending hours upon hours on a bus can do that to you), I was happy to finally meet a few of the people who helped make this event possible. When we got back to where we

were staying (a nice and snug hostel), we had already missed the introduction phase due to our delay. Regardless, I signed in and had a few introductions with those who were still downstairs. Samm and I were not in the same sleeping room, so I said my goodbyes and went to mine – which also happened to be the room of five other people. Excited for the next day to arrive, I neatly arranged my clothing for each day, took off my shoes, and went to sleep.

Early, too early, on Friday morning, we got up and prepared to eat breakfast. In the kitchen, I noticed that most, if not all, of the food was vegetarian or vegan. This didn't bother me – I was already a vegetarian. As I was about to grab a warm bagel and slab some cream cheese on it – I realized I had told Samm (who is vegan) that I was vegan as well. It wasn't a complete lie! At the time I told her, I was – for about two weeks. I just couldn't bring myself to tell her that I had gone back to vegetarianism again. I guess I'll be eating vegan here, I thought to myself, as I went for the peanut butter instead.

Our first official training was held in a nearby Unitarian church, which we would be taken to by a bus. We finished our breakfast, paid for our tokens at the hostel, and all met outside. My friend Samm was a professional “YSJTer”. She had been to YSJT before, as well as several other conferences and trainings involving Unitarian youth, so she already knew several people that were there. I, on the other hand, was quite the virgin. I had never attended anything like this before, but was still determined to meet other people rather than follow her around all week like a lost puppy.

The vision outside was not a vision of your “happy-go-lucky” stereotypical church event or religious picture. It was much more colorful. There were youth (18 and over, of course) that were smoking cigarette after cigarette, while discussing cigarettes. There were several different groups and diverse individuals all about – from openly gay youth, to people of Asian, African American, Mexican American, Puerto Rican, Canadian and multi-racial descents. There were some people who wore somewhat morbid and dark clothing, others who had bright red hair, and others who fit your stereotypical “prep” look. I guess it is pretty fair to say that there was a plethora of individuals. I quickly began to introduce myself to others, as they did the same.

After we all met outside, we walked to the bus stop, took the bus, and then had to walk another mile or so just to reach the church. The walk itself was brutal – I just so happened to be wearing a skirt, and it was freezing. However, it wasn't a complete bust. A very cute boy quickly

caught my eye. He had dark black hair, slightly long, and a very eclectic style of clothing. He seemed somewhat of the rocker type – tall, skinny, a few tattoos, and a lip ring...and he had the most amazing green eyes. I positioned myself in the proper place, and started talking to those he was talking to as well. He introduced himself, as I did the same. His name was Dylan. What a cute name.

When we got to the church, we sat down and listened to a few of the older youth speak for a bit about what type of training this was going to be. They handed out several papers in preparation for the speaker, and encouraged us to look through them. Most of the packets dealt with how to make effective choices within your community in order to promote social justice. Social justice? Let's talk about justice to the environment...how many trees were torn down to provide us with these huge packets? I quietly slid my packets under my chair and waited for the speaker to arrive. When he finally did, I was ready to listen.

Throughout the training, he discussed ways to empower minorities, and gave us a chance to tell of our own experiences that made us unique. We did activities with those around us, which helped me get to know the people I'd be spending four more days with a little better. One activity in particular that I enjoyed dealt with properly carrying on an efficient and effective one-on-one conversation: how does one know when it's appropriate to share, and when it's appropriate to listen? Although the idea seemed kind of silly to me, I liked it because I got to find out and share other things with one individual at a time. One boy, Josh, told me that he had not told too many people a few of the things that he was telling me – and we hadn't even known each for other ten minutes.

Lunchtime finally came, and a sense of relief swooped over me. After nearly two hours of mostly lecturing and talk, I was ready to eat. I got in line and searched through the food. I got a cheese...no, wait – a peanut butter and jelly – sandwich, with some crackers. Remember, I was a vegan now. I sat down at the table that Dylan just happened to be sitting at, along with a few other people. A deep discussion arose about Christianity, which I really did not feel so inclined to participate in – partly because I had no idea what anybody was discussing.

As a person who, until about a year from then, had no religious education or religion whatsoever, I was still very ignorant in that aspect. I simply listened to the conversation, but quickly realized that the conversation turned from informative to somewhat of a mocking of

Christianity. Although I only know the very basics of the religion, I do know that no Christian would have been happy with the words being said.

After the “heavy talk” was over, we began talking about school, friends, and lunch. One girl at the table told a story of her best friend’s silly accident, and as I was laughing, I blurted out, “that’s retarded!” What a mistake I had made. Everybody at the table seemed to turn and look at me as if I had a third eye, and the girl quietly said, “We don’t say that...it’s *bogus*, not retarded.” Embarrassed, I quickly said sorry, and continued to eat my food. I was so used to saying that back home, it didn’t dawn on me that I wasn’t in Kansas anymore.

The next day, we had to get up just as early as the previous morning. Somewhat sleep-deprived and discouraged from yesterday’s disastrous lunch ordeal, I would have rather slept in. Once again, a bagel with peanut butter to start off my day, which was filled mostly with more workshops and group talk. However, rather than just one workshop, we had two or three options to choose from. In addition, these workshops were a bit more detailed and personalized. For my first workshop, I chose the anti-racism option. Being a biracial citizen, I thought I could at least relate a little bit to what they were saying. Well, a little bit was what I got. The workshop started off with introductions. We were supposed to state our name, where we were from, and our preferred gender pronouns. Preferred gender pronouns? I was completely lost at first, but quickly caught on.

“Hello, my name is Chris, I’m from Virginia, and I prefer masculine pronouns.”

“Hello, my name is Gabby, I’m from California, and I prefer feminine pronouns.”

“Hello, my name is Oliver, I’m from Georgia, and feminine or masculine pronouns work for me, I don’t care which.”

Hmm, a bit over the top, but assumedly understandable, so I rolled with it.

“Hello, my name is _____, I’m from Kentucky, and I prefer feminine pronouns.”

Two of the older youth were in charge of this workshop. During this time, we acted out different scenes of racism and how they could be fixed, discussed our feelings on the “one-acts”, and talked about the struggles of minority groups in society and how they need to be recognized as minority groups. Whatever happened to one race, the human race? By singling out minority groups, aren’t we moving away from the goal of equality and reaching true social justice? Nobody else seemed to think so.

By the end of the night, I was exhausted and ready to snooze. Although I met some really nice people and had some great “on the surface” discussions, it was becoming quite obvious that I was somewhat out of place in my thinking. I agreed with some of the things being discussed, but most of it I found to be far too liberal. I had always considered myself a liberal thinker – but I felt like an ultra conservative in a room full of ultra liberals. Needless to say, I was a little homesick. As I mentally prepared myself for sleep, I heard an older youth shout, “It’s time for Identity Groups!” Why the heck couldn’t I just sleep, and what the heck was an “Identity Group”?

Identity groups were designed at JSJT in order to enable different groups of people to have discussions with people they feel most comfortable discussing the problems of equality and racism with. In order to achieve this perfect and highly personalized discussion group, individual’s were assigned to extremely specific (and in no way profiling) groups: the White Identity Group and the People of Color group. Although partially Caucasian, because I was also partially African American, I was “assigned” to the People of Color group, or the P.O.C. group, as it was known.

The P.O.C.’s, or the “pocks” as I liked to call them, gathered upstairs in one of the hostel rooms. We all introduced ourselves again, this time stating our ethnic backgrounds. I listened to stories of other minorities who were greatly segregated by Caucasians, and heard the hurt and anger in their voices. A part of me wanted to think that this whole Identity Group get together was completely retar-“ bogus”, but another part of me understood why it was created. These people really needed it. They needed to feel like they were in a safe space and understood by other people who had experienced similar hardships. However, I had not. After the meeting, I felt even more isolated, and went to bed that night feeling more homesick than ever. For the first time in my life, I desperately wanted to be in Fort Thomas again.

After sleeping for a few hours, I awoke at some ridiculous hour in the AM, feeling like something was lodged within my throat. I could breathe, but found it harder to swallow than usual. I put my hand over my nose and suddenly realized that something was missing: my nose ring was no longer in my nose! Extremely grief-stricken, I sat up in my bunk, desperately searching for my lost item. It was so small (not to mention clear) that I was unable to find it. My

breathing became narrower, as I began to panic. The hole would close up within no time if I did not find my nose ring!

Still feeling like there was a lump in my throat, I began to suspect the worst. Had I inadvertently swallowed my nose ring, or was I just congested? I decided to turn on the lights and do a further and more detailed investigation throughout the bed. However, I was unable to find my precious nose ring. I gave up all hope. Knowing that if I didn't take immediate action I would have to re-pierce my nose, I solemnly took out my earring and stuck it into the tiny hole. On that night, a part of me was lost. I went back to sleep, only dreaming that my nose ring may reappear in my life. It never did. To this day, I will never know if it got lost in the abyss that is a hostel bed, or if I had managed to swallow my own nose ring.

Sunday morning finally came, and I realized that I only had one full day left. This training had become more of a hassle than anything, but I tried to keep an optimistic mind. I had made more friends, met more people, and ended up liking most of the vegan food more than the vegetarian food. More importantly, I talked more with Dylan, although a few other girls seemed to be attached to his hip. I guess I wasn't the only one who thought he was good looking. I discovered that we were going to listening to a man discuss militarism...for THREE HOURS. I barely survived Lord of the Rings, which I absolutely loved. I was not too sure if I would be able to survive a three-hour presentation on militarism.

The man doing the presentation stepped into the room. He was a slender man who looked like he was in his early forties, late thirties. He had equipment that he was eagerly setting up, as we all took our seats (Dylan just so happened to sit down right next to me). I smiled that Dylan was sitting next to me, but my smile quickly turned into a face of half-disbelief, half I-should-have-expected-this as the man started talking about everything that was wrong with the military. As we watched commercials that are often seen on television for the army (be all that you can be!), he judged and knocked down each commercial, telling us what was wrong with each of them. *The military doesn't tell you the truth. They just want your money. They are always hiding things from you. Most kids don't realize that when you join the military, it's a very dangerous situation.* What's worse, I looked around the room at everybody else, and I felt like I had time traveled back to kindergarten. Wide-eyed boys and girls staring at the man in amazement,

agreeing with every single thing he said. I'm sorry, I didn't get the memo, where exactly was the other stance on this argument?

That night, our last night, turned out to be the most intense. Although the focus was supposed to be ANTI-racism and ANTI-oppression, things were extremely segregated and tense between the "pocks" and the white people. We watched a video on cultural "misappropriation". The video focused on the Native American community, and several people who were not of Native American descent taking from their culture and making it a part of their own life. Apparently, that's wrong. As it turns out, America isn't a melting pot at all – it's a huge salad bowl, with extremely defined vegetables and other various toppings. In fact, there isn't even any salad dressing.

Several people were laughing because they thought those who weren't Native Americans were making complete retar-"jerks", out of themselves for taking from the Native American culture. If you don't understand the culture and aren't a part of it, you can't take from it. Many of the pocks found it extremely offensive that the white people were laughing – how could they even begin to understand the hardships that minorities are put through? They have no RIGHT to laugh...it's not their place. Just like those who aren't Native American have no right to borrow from the Native American culture. Once again, this train of thought caused segregation and made it extremely hard to bond. And once again, we were thrown into Identity groups to discuss our feelings, and never coming together as one group to identify with each other.

The next morning, our final morning, I felt extremely relieved that I was finally going to go home. I started packing my bags as soon as possible. I felt like I had missed school back home for nothing – I didn't agree with most of what was being said, I didn't get the guy (the skinny blonde from L.A. got to him first), I had been deprived of cheese, and I lost my precious nose ring. Although Samm and I had another 16-hour bus ride ahead of us, I didn't mind – as long as I could start making my way back home. On the bus ride home, Samm asked how my time was there. I simply responded, "It was an experience." We both then fell asleep pretty quickly after that, and made it home without any delays.

When I got home, it was about 6 in the morning. Needless to say, staying home from school was a no-brainer. I laid in bed and thought about what had just happened for the past week. The more that I thought about the experience, the more that I realized the experience

wasn't a total waste. Although more of a negative experience than a positive, it really made me question my true beliefs and who I was as a person. Up until that point in my life, I had been around mostly conservative thinking people. I had met a few extreme conservatives, but most individuals around me were moderately conservative. I had never been exposed to extreme liberals, and to be exposed to both extreme ends of the spectrum made me realize that no extreme is good – no matter what your beliefs are.

Although Unitarianism claims to be an open-minded religion, several of Unitarians themselves go against this idea. To throw a conservative person into the mix, no matter how humble they were, would bring controversy and close-mindedness at YSJT, and within my former church. The Unitarian church that Samm and I both attended (Samm still attends) matched up more closely with the beliefs of a very politically driven, extremely liberal person – and that's just not me. For now, I've made the decision to take time off from church, and simply learn about different religions and cultures, rather than fit myself into one. Maybe one day I'll find a religion that more closely matches up with my beliefs.

Until then, I'm going to be the girl who makes fun of herself for being half black and laughs at being called "the whitest black person ever". I'm going to be the girl who sings to herself while listening to Hindi music, having no idea of what they are saying, and I'll be that girl who sings to the army commercials, eats cheese and doesn't give a damn. And if you couldn't tell by this paragraph, I prefer feminine pronouns!

Ionic, Covalent, or Metallic?: Differentiating Between Chemical Bonds

Introduction

Compounds can be categorized based upon the type of bond that they form. Ionically bonded compounds form between metals and non-metals, covalently bonded compounds form between non-metals, and metallically bonded compounds form between metals (1). When given three unknown compounds, my task was to discover how each type of compound was bonded. Experiments must be performed to come to a conclusion about the type of bond each compound creates. To discover what the properties of the three unknowns are, tests must be done first on the known compounds. In this case, three different tests were performed on nine different known compounds. The three tests included a magnification test, conductivity test, and solubility test.

Through research, it was discovered that ionically bonded compounds are not conductive when in the solid state but are conductive in the aqueous state, and some do not dissolve in water. As well, they form crystal lattices, which can be seen under a high power microscope (4). Covalently bonded compounds are not conductive in either solid or liquid states, do not form crystal lattices, and do not dissolve in water (4).

Metallically bonded compounds are conductive in both solid and aqueous states, and do not dissolve in water. Under magnification, ionic compounds should resemble a crystal lattice, metallic bonds should be tightly bonded together, and covalent compounds should be loosely bonded (2).

After researching all safety precautions (3) for each element and the disposability of

each (1), tests were done to verify information found in order to observe known elements before experimentation. In all cases, the research conducted closely matched the tests performed, which gave us a solid foundation for figuring out the bonds of the three unknown elements. Based upon the results, the hypothesis was made that the unknown compounds would behave similarly to the known elements that had the same type of bond.

Experimental Procedure

Conductivity:

The materials were as follows: a graduated cylinder, distilled water, a conductivity test, a scale, and a .5 gram sample of each of the unknown compounds. First, the conductivity tester was used to test each known and unknown compound separately in its solid state. Then, the compound was put into 40 mL of distilled water, and the conductivity of this solution was subsequently tested. These steps were repeated in each compound.

Solubility:

The materials needed for this experiment were a graduated cylinder, stirring plate, distilled water, and a .5-gram sample of each of the known and unknown compounds. 40 mL of distilled water was measured out in the graduated cylinder and the compound was then added. The graduated cylinder was placed on the stirring plate and the solution was stirred for approximately one minute. After the stirring plate was turned off, it was recorded whether or not the compound had dissolved.

Magnification:

The materials included microscope slides, a microscope (able to magnify to at least 400X), an a .5-gram sample of each of the known and unknown compounds. A sample of each compound was placed on a slide and then put under the microscope. After adjusted to 400X magnification and focused, the resulting image was sketched and described.

Results and Discussion

The unknown compounds reacted and behaved in the same manner that the known compounds did when tests were performed, thus, it was easy to make well-informed decisions in what type of bond each of the three unknown compounds most likely made. In all cases, the research conducted closely matched the tests performed, which gave us a solid foundation for figuring out the bonds of the three unknown elements.

CONDUCTIVITY:

Compound	Conductivity: solid state	Conductivity: aqueous state
A	Not conductive	Conductor
B	Extremely conductive	Extremely conductive
C	Not conductive	Low/Medium conductor

Figure 1: The conductivity results for the unknown compounds matched our data with the known elements, demonstrating what metallic compounds are always conductive, while ionic and covalent compounds are only conductive in the aqueous state.

Compound A:

The sample was not conductive in the solid state, but when put into the distilled water it solidified and was shown to be a conductor. The compound solidified into a gel-like substance and also turned a murky white.

Compound B:

When this sample was tested in both the solid and aqueous states, the green light on the conductivity tester lit up brightly, indicating that it was an extremely good conductor.

Compound C:

This sample was not conductive in the solid state, and in the aqueous state the red light on the conductivity tester was dim, indicating it was a low to medium conductor.

SOLUBILITY:

Compound	Soluble: yes/no
A	No
B	No
C	Yes

Figure 2: The results of the solubility tests were consistent with our tests of the known compounds, which indicated that these results enforced our research that most ionic and metallic compounds and insoluble, while covalent compounds are soluble.

Compound A:

The sample solidified into a transparent gel-like substance when put into the water, and was therefore determined to have not dissolved.

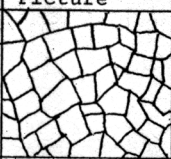

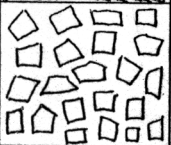
Compound B:

The black piece of this small rock-like solid compound merely floated on the top when added to the water and did not dissolve.

Compound C:

All but very hard, dense, pieces of this compound dissolves, so I determined that the majority of the substance had indeed dissolved in water.

MAGNIFICATION:

Compound	Picture	Description
A		Blocks, all joined together
B		Only black visible
C		Blocks, more separate than in compound A

Compound A:

Under the microscope, this compound looked like clear, white structures, all joined together.

Compound B:

The magnification of this compound showed very little. The only thing visible was the dark brown/black color of the substance.

Compound C:

The magnification of this sample revealed white structures, more separated than seen in compound A.

FINAL RESULTS:

Compound A:

This compound was not conductive in the solid state, which demonstrated that this compound was not metallically bonded. Based on research, if this compound were to be ionically bonded, it would be conductive in the aqueous state. Based upon the experimental data, this compound was indeed conductive in the aqueous state, which led to the conclusion that it was more than likely an ionically bonded compound. To reinforce this conclusion, I also discovered that the

compound did not dissolve in water.

Compound B:

The conductivity test revealed that this compound was extremely conductive in both solid and aqueous states. Metallic compounds behave in this manner, so the conclusion was come to that the compound was metallically bonded. In order to enhance this conclusion, I looked at the results from our solubility tests. The compound did not dissolve in water, which were the results that should have occurred if the compound was truly metallic.

Compound C:

After performing the conductivity test on the compound, the conclusion was that it was not metallically bonded, because it was not conductive in its solid state. However, it was slightly conductive in the aqueous state. After performing this test, results from the nine known compounds were looked back upon. With all three known covalent compounds, they were also slightly conductive in an aqueous state. To become more confident in findings, a solubility test was performed. Our hypothesis was confirmed - the compound dissolved in water, which is exactly what the known covalent compounds did. The compound was then classified as a covalent compound.

The initial purpose of the magnification test was to be able to see the unique structure that each type of bond creates. If a crystal lattice were to be observed, I could have come to the conclusion that the compound was ionic. However, after performing the test, it was discovered that it was hard to truly observe anything, and it

was not very helpful in discovering what type of bonds the three unknown elements made. There were no clear observations when analyzing the data, possibly because of the limiting magnification power on the microscope used. The magnification test was not very useful in this experiment. Due to that information, more focus was put on the conductivity and solubility tests, which created stronger and more definite results.

Conclusion

This experiment allowed me to expand my knowledge in the field of chemistry and become a better student through experimentation. The most important findings were discovered at the end of the experiment, when all of the data recorded with the known elements enabled us to come to a strong conclusion as to which type of bond each unknown compound created. This also expanded my ability to be able form a strong hypothesis based on research and experimental data. If the experience were to be done over again, I would have changed my concentration level at the beginning of the lab. Accurate data and results were able to be achieved.

Works Cited

1. Flinn Chemical and Biological Catalogue Reference Manuel 2005. Flinn Scientific, Inc. Botavia, IL, 2003. Pg 993.
2. Lemay Jr., H Eugene and Beall, Herbert and Robblee, Herbert M. and Brower, Douglas C. Chemistry: Connections to Our Changing World. Needham, Mass. Prentice Hall Inc, 2002.

3. O'Neil, Maryadele Jr. The Merck Index 13th Edition. Whitehouse Stenton, NJ, Merck Co. Inc. 2001.
4. Pyrando, Laurel and Gregg, Kathleen V. and Hainen, Nicholas and Wistrom, and Cheryl. Chemistry: Matter and Change. New York, New York. The McGraw-Mill Companies, Inc. 2002.

To CRON or not to CRON: Calorie Restriction Society

Calorie restriction: most people hear these two words when dieting. The thought of restricting calories when weight loss is not desired seems ridiculous to most people. However, there are a group of individuals who would avidly disagree. These individuals are part of a group of approximately 1,000 followers, known as the Calorie Restriction Society. These individuals practice C.R.O.N., calorie restriction with optimal nutrition, in hopes of living a longer life.

The main belief behind C.R.O.N. is that if you restrict your caloric intake, you will increase your health and longevity. Due to this belief and practice, they are often referred to as “cronies”. But is the payoff of living a reduced calorie diet worth a *possible* longer life? Moreover, is that longer life really promised and healthier? Most cronies would advocate for this lifestyle (as it is not referred to as a “diet”), but it remains a debatable topic.

In order to fully understand the beliefs of a cronie, there must be a clear understanding of the history and research of C.R.O.N.. In the early 1900's, the idea of restricting calories for better health was first introduced. This idea advanced a great deal when research was done on rats in the 1930's. When comparing rats who were allowed to eat freely with those who were on a restricted caloric intake, the latter group generally lived a longer life. Researchers and scientists continue to hypothesize about the link between diet and longevity; many have concluded that the caloric restricted rats lived longer because less stress was put on their cells (Fackelmann).

Several years later, calorie restriction was tested on with monkeys. The research and experiments proved to be consistent with experiments previously performed – similar to the rats in comparison with the control group, the calorie restricted monkeys weighed less, had less body fat, and lower blood pressure and cholesterol levels. In 1988, research was finally done on humans in the BioSphere II experiment. In this experiment, eight people went on a calorie

restricted diet for two years; an average of 1,800 calories per day for the first six months and 2,200 calories per day after that. The results in humans proved to compare with the results in other tested animals: body weights dropped 15%, and blood cholesterol dropped 38% (Ingram).

When looking at longevity, mice studies prove to be helpful because they have shorter life spans. In the control group of mice, they found that the overall incidence of tumor formation was 78% in the control group, compared to only 38% in the calorie restricted group. In addition, the researchers concluded that the CR mice stayed younger longer based off of different parts of their bodies. These parts include eye and lense proteins, liver enzyme activities, and learning and behavioral patterns. In these mice, their life spans could increase up to 13 months (Ingram).

In another study published in the *Proceedings of the National Academy of Sciences* in 2004, the effects of calorie restriction was tested in mice that were 19 months old. The changes in these mice were similar to those in the first study - they began to exhibit health benefits within the first two months of calorie restriction, and generally increased their life span by about 6 months (Barclay).

Most of this information sounds wonderful to the average American - *who wouldn't want to decrease their waist size and cholesterol levels while increasing their life span?* While these studies prove to be positive for cronies, there are a few down sides and skepticism to a restricted calorie lifestyle. Although these studies demonstrate the health benefits to living a restricted calorie diet, they fail to mention health problems. Moreover, the leap from researching longevity in mice to the longevity in humans on a restricted diet has failed to occur (Barclay).

Researchers at UCLA compared and analyzed the data from the rat studies and applied that data to human studies. They discovered that severely cutting calories in a human diet may extend life, but not by long as cronies are hoping. As well the rats studied were put on such low

calorie diets that they were no longer able to reproduce. Even if a human were to put themselves on a similar diet, they still would not stay alive much longer than the average individual. Many would agree that for such a restricted caloric diet and small change in life span, the sacrifice would not be worth it (Fackelmann).

For many cronies who have been following the lifestyle for years, the risks and benefits are demonstrated in the health of the individual. Khurram Hasmi decided to follow the calorie restriction way of living as a cronie. He carefully watches everything that he eats, some of his foods including whole-grain muffins, fresh fruits and vegetables, among other nutrient packed items. Weighing in at 129 at 5'11 (down from 180 pounds), he consumes about 1,800 calories a daily; the average man consumes about 2,400 calories. He knows well the effects of hunger on his body, but he believes that the hunger tells him the diet is working. Other cronies such as Hasmi were studied over a 15 year period, and while all were found to have decreased risks of blocked arteries and lower blood pressure, many also carried some of the health risks associated with calorie restriction (Fackelmann).

The problems that Hasmi experienced are common problems with the diet. Many cronies have reported that they experience a sense of cold more easily (due to low body fat percentage), intense hunger, reduced libido, and low blood sugar. In addition to the negative health effects, it can also become a social issue. Discipline to stick to the diet can be hard, especially when others around are eating full-fledged "American foods".

What exactly do the cronies have to say about the negative media attention on their lifestyle? One cronie, age 37, explains that he eats mostly salads and raw vegetables, hoping that he will live a longer and better life. And, like most cronies, he experiences hunger quite often and a low libido. However, he is convinced that he will live a longer life and remains true to his

lifestyle, stating, "If I can live to 120 - that wouldn't be bad".

The leap from mice to humans in respect to determining longevity is a stretch for some, and it has yet to be determined if the C.R.O.N. lifestyle really does allow for strong increased longevity. In order for this to be discovered, we must wait for all the cronies to age. Until hard facts and evidence has been presented about the lifestyle, most people would rather eat as many calories as their body requires.

Works Cited

Barclay, Laurie. "Long-term Calorie Restriction Improves Cardiovascular Risk." 20 Apr. 2004.

Medscape Medical News. 13 Dec. 2005 <<http://www.medscape.com/viewarticle/473866>>.

Fackelmann, Kathleen. "Bare-minimum diet: Is long life the payoff?" 23 Oct. 2005. USA Today.

13 Dec. 2005 <http://www.usatoday.com/news/health/2005-10-23-bare-minimum-diet_x.htm?csp=34>.

Ingram, Donald. "Compelling Evidence in Humans' Closest Relatives." July 1998.

LifeExtension. 13 Dec. 2005 <

http://www.lef.org/magazine/mag98/july98_monkey.html>.